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Finding common ground between theories of collective action: the potential of analyses at a meso-scale

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Abstract: The theories of collective action relating to natural resource management and agricultural development are often considered to be polarized. The theories are divided into institutional economics with a focus on social dilemmas and sociology/anthropology. This article reviews the attempts to find common ground between the two groups. Several studies in sociology and anthropology have pointed out weaknesses in the approaches based on institutional economics. However, the criticisms have failed to trigger serious debate. Studies in each group have taken the initiative to "reach out" to the other, but so far the results have been limited. This article proposes an alternative approach to finding common ground between both groups. This involves focusing on the scales of validity of the research, i.e. the scale at which research results are considered valid. Many studies use or develop theoretical bases and build methodologies in order to obtain results that are deemed to be valid at a local or global scale. Other approaches use a meso-validity scale, e.g. one economic sector or one type of natural resource in a specific region. Some of these approaches organize a structured comparison between different cases of collective action and, at the same time, address the criticisms made by sociologists and anthropologists with regard to the approaches used in institutional economics. Research at a meso-validity scale can help establish common ground between the two main groups of theories concerned by collective action.

Keywords: Anthropology, collective action, institutional economics, sociology, theoretical basis, validity scale

1. Introduction

In the past 30 years, there has been growing interest in the study of collective action initiated by actors in rural areas. This applies to both natural resource management and to the coordination of agricultural production and marketing (Bernard et al. 2008; Poteete et al. 2009). Studies have developed or mobilized diverse theoretical bases, including frameworks (the elements investigated and the relationship between them), theories (that specify which elements are particularly relevant and which may be used to make general assumptions), and models (that make precise assumptions about specific variables) (Ostrom 2011). The different studies include a relatively homogenous group of research in institutional economics, with key contributions by authors, such as Ostrom (1990), Baland and Platteau (1996) or Agrawal (2002). These studies generally share similar goals, assumptions and a specific viewpoint for the analysis of case studies. They also obtain similar results in terms of identifying conditions for successful collective action. A further group of studies of collective action, involving actors in rural areas, has been conducted from a sociological or anthropological perspective. These studies use very diverse theoretical bases, for example, political ecology (Campbell 2007; Dahal et al. 2014) or actor-network theory (Steins 1999; Van Der Kooij et al. 2015). Studies in sociology and anthropology do not generally propose standard methods to analyze cases of collective action because they consider that methods should be specifically adapted to each case.

Both groups of theories have advantages. The theoretical bases used in institutional economics have proven their capacity to structure a comparison between different cases. In fact, they have been used widely in the academic community.[1] This success is largely due to the fact that the theoretical bases proposed by this group of studies are universal (applicable to a wide variety of situations). They also set out clear methodological guidelines for studying examples of collective action, which means that they are easy to apply. Studies in anthropology and sociology have proven their capacity to provide a detailed understanding of the multiple dimensions of collective action in specific case studies (e.g. Dominguez and Benessaiah 2017). Moreover, studies of collective action in both institutional economics (Rap 2006) and sociology/anthropology (Suhardiman and Mollinga 2012) have influenced policies for natural resource management.

There are clear differences within each group of theories. However, these are minor compared to the large divide that appears to separate the two groups. Despite major differences in theoretical orientations, is it possible to find some common ground between the two groups? By common ground, we mean the possibility to identify sets of approaches, which are considered valid according to the criteria of validity as defined in theoretical bases drawn from both groups of theories. In other words, is it possible to set up approaches that can benefit from the

[1] For instance, in March 2017, Google Scholar research engine identified more than 27,000 academic references quoting Ostrom (1990).

main advantages of the two groups? In particular, is it possible to design research approaches that: (i) make assertions that are considered valid in a large number of situations on the basis of a structured comparison of case studies, (ii) take account of the multiple dimensions of collective action? If common ground is established, it could provide the starting point for genuine dialogue with regard to theoretical bases, methods and results, which is not simply a matter of one group occasionally borrowing some framework or concept from another group.

This article reviews the attempts that have been made to establish common ground between the two groups of theories and goes on to propose an alternative approach to finding common ground. The following section presents the main characteristics of each group of theories. The next section reviews the efforts to encourage debate. It also considers the attempts made by researchers from each group to include proposals put forward by the other group. We demonstrate that most initiatives have failed to achieve common ground. As a way forward, we suggest that validity scales should be taken into account in research on collective action. We define the validity scale as the level at which research findings are expected to be valid. Most research on collective action has been designed to achieve either a global validity scale (i.e. where the theoretical bases and results are considered relevant in any case of collective action) or a local validity scale (i.e. where methodology is defined on a case-by-case basis and does not allow for the structured comparison of cases). Other research on collective action has been conducted with a meso-validity scale, which concerns, for instance, a single economic sector or a specific natural resource in a particular region. We argue that if certain conditions are met, the use of a meso-validity scale could lead to the successful establishment of common ground between the two groups of studies of collective action in rural areas.

2. Two main groups of theories for studying collective action

2.1. Institutional economics

This group of studies can be characterized by the following three elements, in terms of their goals and theoretical bases. First, this group focuses on how the actors' collective action is conducted to examine how actors find solutions collectively in a situation involving a social dilemma, i.e. when coordination between actors can generate greater benefits, for each actor overall, than if actors adopt individual strategies (Poteete et al. 2009). The most famous social dilemma is the one that occurs when the use of a common-pool natural resource may lead to a "tragedy of the commons". These studies aim to identify the factors which influence the actors' capacities to cooperate and, in particular, their capacity to set up institutions which are understood as "rules in use" (Ostrom 1990). Second, these studies are based on methodological individualism, whereby actors act in a rational way according to preferences that existed before the institutions were created (Vatn 2007). Third, they use frameworks and models to structure the comparison between different cases of collective action (Poteete et al. 2009) and to obtain synthetic findings, especially in terms of the correlation between explana-

tory and explained variables (Cox 2014). There are two types of correlations: first, the correlations that are identified between certain characteristics of actors and natural resources (or technical systems) on the one hand, and the types of institution created on the other. Second, correlations can also be made between the characteristics of actors, natural resources and institutions, on the one hand, and the effectiveness of collective actions in terms of solving a social dilemma on the other (Ostrom 2000; Agrawal 2001; Baggio et al. 2016). The Institutional Analysis and Development framework proposes a generic setting that links the different variables involved in the second category of correlations (Ostrom 2011). These commonalities allow us to consider that the authors who adopt these approaches belong to the same school of thought, which we refer to as the "institutional economics approach to social dilemmas" (IESD).

The IESD school has made a major contribution to the research in institutional economics that studies collective action for natural resource management. There are other approaches in institutional economics, e.g. that rely on classical institutional economics (Marangos 2009). Moreover, some researchers from the IESD group also claim to have links with other research traditions. For instance, Ostrom (2010) also described herself as a political analyst.

In terms of results, IESD studies have identified factors that may enhance or weaken the success of collective action (Agrawal 2001). For instance, in the case of collective action for natural resource management, they state that it is easier to design management rules for a natural resource when its characteristics are known and its evolution is predictable. Actors with a low discount rate for the future are usually more inclined to become involved in natural resource management than actors with a high discount rate (Ostrom 2000). Models have been built to propose causal linkages between several of these factors (Araral 2014). Ostrom (1990) identified principles for designing rules that support a successful and sustained user-based approach for managing common-pool natural resources. However, these studies have generated contradictory results with regard to the influence of various characteristics of the socio-ecological system on collective action, for instance, the heterogeneity of the users of a natural resource (Faysse 2005; Andersson and Agrawal 2011).

IESD studies (Ostrom 2011) present assertions about the factors that strengthen or weaken actors' capacities for collective action in such a way that they sometimes lead to relatively direct recommendations for policy design. For instance, Shivakoti and Ostrom (2002) showed that farmer-managed irrigation schemes were performing better than state-managed schemes in Nepal. On the basis of this finding, they recommended the creation and empowerment of water user associations in state-managed irrigation schemes.

2.2. Sociology and anthropology

Numerous studies in sociology and anthropology examine collective actions initiated by actors involved in natural resource management and agricultural produc-

tion. The studies are extremely diverse in terms of the subjects, theoretical bases, goals, and methodologies. The different approaches clearly reflect more than one school of thought. Despite clear differences, these studies generally use a social constructivist approach with regard to: how actors perceive the issues that make them interdependent (as well as the opportunity and relevance of possible collective actions); and how actors evaluate the performance of collective action. Contrary to IESD studies, some studies in sociology and anthropology do not consider actors' viewpoints and preferences as a given. Instead, they explain how viewpoints and preferences can evolve through social interactions (Steins and Edwards 1999a). In sociology and anthropology, studies generally analyze the multiple arenas where actors interact. For instance, Aubriot and Prabhakar (2011) describe the interrelations between local politics and the community-based user organization for managing a natural resource.

In general, these studies analyze a limited number of cases and seek to understand more localized multi-dimensional aspects of social interactions between the actors involved in collective action. They focus on the specificities of each case. Numerous studies do not compare cases (e.g. Wutich 2009), which is paradoxical given that anthropology usually defines itself as a comparative social science (Handler 2009).

The main findings that emerge from anthropology and sociology research and that have validity, which goes beyond the cases studied, concern the elements that should be considered when undertaking analyses of collective action. These include: power relationships, the degree to which collective action for natural resource management or agricultural development is embedded in wider social relations, actors and factors that are external to local communities, the heterogeneousness of local communities (and the importance of including certain concepts, like community), historical processes, representations and discourses, etc. (Mosse 1997; Murray Li 2007; Fernández-Llamazares et al. 2016). One case is sufficient to prove that a specific concept can be important for the study of collective action (e.g. religious beliefs, Dominguez et al. 2010). Other studies have proposed analytical concepts of broad relevance for studying collective action (e.g. institutional bricolage, Cleaver 2012).

Some studies make assertions about the meaning, process, and outcomes of actors' collective actions. Some consider that their results are most relevant at the scale considered in the case studies (Fernández-Llamazares et al. 2016). While others propose scaling up the results from several cases to the region where the study took place (Genin and Simenel 2011). However, when works in sociology and anthropology do not include a structured comparison of several cases within a larger group of cases of collective action (for instance in a specific region or for specific natural resources), it can be difficult to present findings that can be considered as valid beyond the cases studied. For instance, Dahal et al. (2014) revealed the major power asymmetries in committees involved in managing a conservation area in a village in Nepal. A study of this kind does not suffice per se for making the assertion that similar power asymmetries occur in all committees of this type in Nepal.

Given the characteristics of the theoretical bases and research designs used by studies in sociology and anthropology, fewer assertions have been made regarding the factors that could strengthen or weaken collective action compared to the IESD school. Some studies in sociology and anthropology nevertheless propose ways to improve coordination and negotiation between actors, either by empowering marginalized actors (Dahal et al. 2014) or by establishing multi-stakeholder platforms (Steins and Edwards 1999b).

3. Attempts to link both groups of theories

3.1. Failed attempts at discussion since the 1990s

Since the mid-1990s, scholars who adopt sociology or anthropology approaches have published numerous articles that point out the shortcomings of the IESD approaches in terms of their theoretical bases, goals, assumptions, and methods. Mosse (1997) and Steins and Edwards (1999a) were particularly convincing because they showed that undertaking a (short-sighted) analysis, based on IESD theories, would lead to a misunderstanding of what actually occurs in the examples they studied.

Mosse (1997) studied the collective management of irrigation tanks in India. He showed that if IESD's theoretical bases were applied, they would cause a major misunderstanding of the differences observed in the collective management of water tanks in a group of villages. The IESD approach would lead to a conclusion suggesting that soil characteristics were the key reason for the differences observed. An analysis based on this approach would claim that the soil characteristics made irrigation necessary in some villages and, thus, motivated farmers to engage in collective action to manage the irrigation tanks. By contrast, in other villages where the soil characteristics meant that irrigation was less important, farmers had less incentive to engage in collective action. However, Mosse (1997) showed that in villages with a low level of collective action, tanks had previously been managed collectively. The soil characteristics actually made it possible for some of the farmers in these villages to stop using tank irrigation water because they considered that the tanks were poorly managed. Mosse concluded that common-pool resources are not only physical resources, but also symbolic ones. They constitute an important locus for social and power relations.

Similarly, Steins and Edwards (1999a) analyzed a fishing cooperative in Ireland. The cooperative was inactive, despite meeting all Ostrom's (1990) principles for the sustained user-based management of common-pool resources. Steins and Edwards (1999a) showed that the cooperative members did not create the cooperative with a view to achieving its officially stated goal, namely, to develop joint economic activities in a bay. Instead, they were motivated by a hidden objective, which was to assert their rights in the bay. In the light of this analysis, Steins and Edwards argue that a social constructivist approach is required to study collective action.

Generally speaking, many sociologists and anthropologists consider that studies from the IESD school are based on a relatively functionalist and utilitarian approach to common-pool resources. They claim that IESD analyses focus exclusively on the questions of "incentives" in order to understand how and why actors manage to solve social dilemmas (Hall et al. 2014). In addition, sociologists and anthropologists generally consider that the IESD school uses an oversimplified model to explain the relationship between actors and between actors and natural resources (Mosse 1997). In particular, they criticize the gap they perceive between: (1) the research findings in sociology and anthropology, in terms of the key elements that should be considered in a case study of collective action (as mentioned above); and (2) the elements that the IESD school includes in its theoretical bases. The following list presents the main criticisms and shows, for some of them, how the IESD theoretical bases have evolved in a way that answers these criticisms to some extent:

- *Multiple issues and social embeddedness.* The theoretical bases used by the IESD school generally consider that actors involved in a socio-ecological or socio-technical system interact around a single issue (e.g. a social dilemma concerning the sustainable use of a common-pool resource). However, in practice, actors' interaction is usually linked to several issues, in distinct but interrelated arenas. For example, actors involved in natural resource management may also be involved in local politics and there may be possible competition between different families or groups, etc. (Steins and Edwards 1999a).
- *Multiple values, objectives and definitions of performance.* In general, the IESD's theoretical bases assume that actors' behavior is driven by economic rationality. For instance, they consider that users of a natural resource aim to benefit as much as possible from using that resource (Nightingale 2011). Sociologists and anthropologists consider that IESD approaches give little or no attention to the cultural and symbolical values, which users attach to common-pool resources (Mosse 1997), despite the importance that these values may have when it comes to defining the users' identities (Gerkey 2011). Moreover, according to the IESD school, collective action involves coordination among actors with a view to solving a social dilemma. This entails the use of a universal definition of the performance of collective action, which is evaluated according to its capacity to solve a given dilemma. However, actors generally have many different objectives and, therefore, how they define the performance of collective action is likely to differ (Steins and Edwards 1999a).
- *External actors and factors.* Initial works in IESD, such as Ostrom (1990), focused on the management of local common-pool resources. Initially, limited attention was given to actors and factors external to the local com-

munities (Agrawal 2002; Ojha et al. 2016). However, IESD approaches have evolved. Later studies integrated external actors (Lopez-Gunn and Martinez-Cortina 2006). Some broadened their scope (in terms of scale) (Villamayor-Tomas et al. 2014) or focused on global commons (Stern 2011).

- *Power relationships.* The IESD theoretical bases focus predominantly on the rules and characteristics of the socio-ecological or socio-technical systems, but tend to sideline issues of power relationships (Mosse 1997).
- *History and processes.* According to Mosse (1997) and Johnson (2004), the IESD theoretical bases give limited importance to the dynamics of socio-ecological systems. Studies using these theoretical bases have been accused of providing "snapshots" of management regimes (Steins 1999). However, Ostrom has attributed greater importance to the evolution of institutions in her last works (e.g. Ostrom 2014).

These criticisms have been repeated time and again (see Hall et al. 2014 for a recent overview), but have failed to trigger real debate. Key authors from the IESD school have barely responded to the criticisms, leaving sociologists and anthropologists with nothing but "imaginary conversations" (Mosse 2006). In particular, Ostrom never quoted Mosse's article (1997). She referred to Steins and Edwards (1999a) and their criticism that her work was based on an "overgeneralization to a broad range of cases, abstracting excessively from [the] local context and [the] history of particular cases" (Ostrom and Cox 2010). However, Ostrom never published a detailed response to the criticisms expressed by Steins and Edwards or other sociologists/anthropologists for that matter. Similarly, Agrawal (2001), whose approach can also be placed within the IESD school, briefly mentioned Mosse (1997) and Steins and Edwards (1999a), without responding directly to their criticisms.

In general, authors from the IESD school have shown a positive appreciation of the in-depth studies conducted by sociologists and anthropologists. However, they criticize the latter for generalizing on the basis of a very small set of case studies. They also claim that there is no guarantee with regard to case study selection bias or representativeness (in terms of the diversity of situations) (Agrawal 2001; Poteete et al. 2009).

3.2. "Reaching out"

Academics from each group have conducted numerous studies, which borrow elements (framework, concepts, etc.) from the other group. Firstly, some studies remained firmly anchored in sociology or anthropology. They followed the proposal made by Steins and Edwards (1999a), namely: to use key elements and results from IESD studies (e.g. Ostrom's design principles, the Institutional Analysis and Development Framework) as guides for in-depth investigations of specific cases using a social constructivist approach (Wutich 2009; Cinner et al.

2012; Gruby and Basurto 2013; Afroz et al. 2016). This approach helped to structure some aspects of the analysis, without excluding other dimensions. Secondly, studies in institutional economics proposed adding concepts used in sociology and anthropology (e.g. power) to one of the IESD frameworks. Some articles made theoretical proposals (Epstein et al. 2014; Whaley and Weatherhead 2014). Others adopted the approach for a few cases, thus, deviating from the meta-analysis approach of the IESD school (Clement 2010). Few papers actually included concepts used in sociology and anthropology for a comparative analysis of several cases (Cox et al. 2014).

In fact, studies in sociology and anthropology have identified a broad set of elements, which they proved was important for understanding collective action in many of the examples that they studied in rural areas around the world. Integrating all these elements in one of the existing IESD frameworks appears to be an impossible task. Therefore, despite the fact that some interesting results have emerged from the study of specific cases, both IESD and sociology/anthropology approaches have failed to build a theoretical basis that: allows for a structured comparison between different cases; and at the same time provides a response to the criticisms made by sociologists and anthropologists regarding the IESD theoretical bases.

The attempt to establish common ground between the two groups of theories has made little progress in the past 20 years. Therefore, a number of studies proposed drawing a line between the theoretical bases used by the two groups in terms of their goals, assumptions and methods (Mehta et al. 2001). Bardhan and Ray (2006) described the two groups of theories as being on opposite sides of several dichotomies, such as outcomes versus processes or autonomy versus embeddedness. Johnson (2004) went even further to argue that it is inevitable that the two groups of theories coexist separately, rather than find common ground.

Over and above the conceptual issues, a further difficulty, which may limit the endeavors made by academics to establish common ground, is that the different academic communities using the two groups of theories conduct research on similar topics and sometimes compete for resources and influence. This can prevent in-depth discussion and cooperation (Geary 2010). Therefore, an issue of "collective action" clearly exists between academics from different research traditions.

4. An alternative way to frame a typology for studies of collective action

4.1. Validity scales

Here, we propose an alternative way to find common ground between both groups of theories, which focuses on the validity scale used in studies. Researchers mobilize theoretical bases and design methodologies to achieve a certain validity scale. It is important to note that the validity scale may differ from the level at which collective action is studied. Here, collective action is considered on a local level

(village, small to medium-scale irrigation scheme, etc.), whereas validity may be considered at local, meso or global level.

One group of studies of local collective action aims to achieve local validity, i.e. the level of the cases studied per se. Although global theoretical bases may be used in this type of approach, the methodology is generally defined on a case-by-case basis. Methodologies can be defined on the basis of preliminary knowledge prior to data collection or built progressively during fieldwork as the researcher gains in-depth knowledge of the studied cases. This type of research gives priority to understanding the various multiple dimensions of collective action on a case-by-case basis, taking into account the fact that they may vary. This approach does not provide a framework for the structured comparison of different cases. Many studies in sociology and anthropology belong to this group (for instance, Fernández-Llamazares et al. 2016).

Another group of studies of collective action uses theoretical bases and methodologies designed to achieve global validity. They can be used for comparative analyses of a large set of different cases. The aim is to obtain findings that are considered valid for a large set of cases or even for any case of collective action. Most studies from the IESD school belong to this group (Agrawal 2001).

In addition to these two well-known groups, a third group of studies focuses on a specific "sector" (e.g. a specific type of farmer organization in a given country, a specific problem of natural resource management in a region). This approach involves a structured comparative analysis of several cases within the sector. Studies of this kind are considered to have a meso-validity scale. They mobilize theoretical bases and design methodologies to take into account the key elements considered to influence the processes and outcomes of collective action in the region or sector under study. Some dimensions of the analysis may be given priority or excluded, depending on the context. For instance: power asymmetry between actors may be considerable in some regions and relatively limited in others; in a given region, informal, traditional coordination modes may be important, while in other areas, formal institutions may provide the main framework for stakeholder interaction, etc. In order to understand water user associations in Pakistan, it is important to understand the roles played by powerful notables, as well as the informal relations that exist between farmers and the bureaucracy responsible for irrigation (Rinaudo 2002). By contrast, in the mountain areas of Morocco, in order to understand collective action for water management, it is important to grasp the link between the formal water user associations and traditional community-based management (Bekkari and del Castillo 2011).

Figure 1 presents examples of research for all three validity scales. A key difference between approaches that use a meso-validity scale and those that use a local scale is that in the former, the dimensions of collective action, which are included in the theoretical basis, are drawn from more than one case. The selection of dimensions depends on the preliminary knowledge that researchers have of the whole set of cases (at sector or regional level). Indeed, researchers seek to apply the same theoretical basis to diverse cases within the sector or the region.

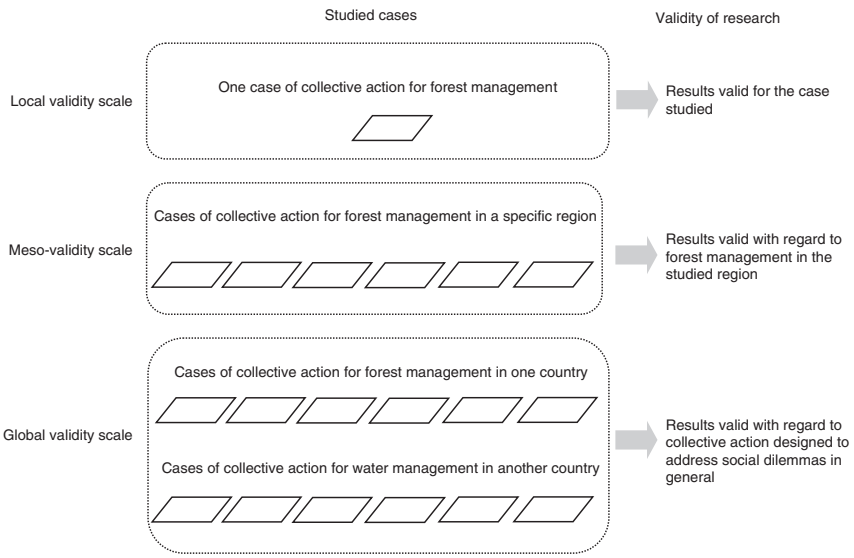

Figure 1: Examples of research on collective action using different validity scales.

Meso-scale approaches also differ from studies using a global validity scale: in their theoretical basis, they include some elements that researchers consider important for examining the specific sector studied (e.g. collective action for forest management in a specific region).

Meso-scale analyses have been used to study collective action in diverse sectors, for instance agricultural cooperatives in India (Shah 1996), governance of groundwater in Morocco (Faysse et al. 2012) and Spain (Lopez-Gunn and Martinez-Cortina 2006), river committees in Tanzania (Komakech and Van der Zaag 2011), participatory irrigation management in Thailand (Ricks 2015) or forest governance in Cameroon (Ingram et al. 2015).[2]

Can analyses that use a meso-validity scale establish common ground between obtaining findings that can be scaled up (based on a structured comparison of case studies) and maintaining the complexity of collective action (as for individual case studies)? We propose three prerequisites to achieve common ground using a meso-validity scale approach. Analyses should: (i) take into account the most important elements and concepts for understanding the processes and outcomes of collective action in a specific region and/or sector; (ii) use a theoretical basis capable of addressing the criticisms made by sociologists and anthropologists

[2] In this section, collective action was considered at the local level. Collective action between actors in rural areas may also involve actors on a wider regional or national level. In this case, a meso-scale analysis may involve the identification and characterization of actors' networks for collective action, which deal with similar issues (for instance, resistance to dam building in South Asia).

with regard to IESD studies, as far as possible; and (iii) enable a structured comparative analysis of different cases of collective action, in terms of their processes and outcomes (and if the approach involves an assessment of the success of collective action, it should focus on the diversity of possible viewpoints with regard to criteria for success). Not all analyses that use a meso-validity scale set out to meet these three conditions. Here, we present two examples that do so.

4.2. Two examples of analyses using a meso-validity scale

Shah (1995 and 1996) analyzed 100 cooperatives in India in order to understand the factors that determine their performance. Contrary to approaches in IESD, Shah did not use his own definition of the performance of collective action. He considered that cooperatives were performing if their members thought so. Shah (1995) conducted a quantitative comparison of the cooperatives, based on a specifically designed framework. He suggested that cooperative performance is influenced by a set of factors. These factors may be internal or external to the cooperatives, for example, support from federations of cooperatives and the state. Moreover, Shah explicitly took into account the challenges faced by cooperatives in terms of meeting the demands of members with different interests and goals (and hence a different appreciation of their cooperative's performance).

Shah (1995) found that the most influential factor for the success of cooperatives (according to the members' assessment) is the members' capacity to pressurize the management committee in order to achieve their own objectives. Shah (1996) conducted a qualitative assessment of the same cooperatives. For each type of cooperative in a specific region (e.g. dairy cooperatives in Gujarat), he analyzed the past dynamics, taking into account issues such as the relationship between the cooperative and the state, the role of power relations and local politics, the cast system, etc. Based on this analysis, Shah (1996) identified a series of design principles, that are of key importance when it comes to explaining the capacity of cooperatives to meet their members' expectations. Shah also showed that successful cooperatives often diversify their activities in order to play a prominent role in their members' daily lives. By doing so, they mobilize their members. Successful cooperatives are often founded by the members and continuously adapt their modus operandi in order to cope with risk or size opportunities.

Shah reaches some of the same conclusions as Ostrom (1990): (i) cooperative members should be free to design and experiment rules for managing their cooperatives; (ii) the state may intervene to support local collective action, but only on the condition that it does not interfere in cooperative governance. However, some of Shah's results differ from Ostrom's. According to Shah, the key to successful collective action is not so much a specific set of principles for framing rules, but rather the institutional design, i.e. the general relationship between actors, as well as the rules that encourage actors to behave in a way that will benefit the whole group. There is no ideal institutional design for agricultural cooperatives. However, in many sectors (e.g. borehole companies in Gujarat), designs that are

conducive to successful collective action have emerged after a lengthy process of trial and error. They are well-adapted to the constraints and opportunities specific to each sector. These sector-specific institutional designs are a particularly clear example of results obtained with a meso-scale approach.

Ben Mustapha (2016) conducted an analysis of three small-scale irrigation schemes in Tunisia. This work builds on actor-oriented approach (Long 2003). The actors studied were mainly farmers, members of the water user association's management committee, the staff of the water user association and the civil servants in the administration responsible for monitoring the water user associations. In each case, she identified the main issues that stimulated coordination and negotiation among actors.

For each issue, she used the same conceptual framework to assess: actors' rationale (the meaning they gave to their actions on the basis of their understanding of the system and the situation), their objectives and strategy, their agency (ability to act individually and/or collectively to achieve their goals), the outcomes of their actions and what they learned from their experience. In particular, she studied the extent to which actors acted alone or sought to build coalitions to reach their objectives. The collective actions between actors were positioned along a gradient, which included the following cases: (i) the actors do not share a common diagnosis of the issue; (ii) some actors have a common diagnosis, but fail to identify a solution that each of them considers relevant (according to his or her own individual objectives); (iii) some actors have identified a solution, but are unable to implement it; and (iv) some actors form an active coalition to resolve the issue.

Ben Mustapha (2016) showed that, within the same water user association, the types of coalitions between actors differed significantly from one issue to another. This applies both to the actors involved and to their position on the gradient. The analysis helped identify the stumbling blocks preventing improved levels of coordination between actors. It also helped identify the differences between actors in terms of their perception of the water user association's main objective and its performance. For instance, in one case, farmers considered that the association's main goal was to meet the members' needs. However, the civil servants in the administration in charge of monitoring water user associations considered that the association's main goal was to ensure that the irrigation infrastructure was used sustainably (see also Ben Mustapha et al. 2015).

The conceptual frameworks used by Shah (1995 and 1996) and Ben Mustapha (2016) both aim to achieve a meso-validity scale. They include certain elements that may be considered generic (e.g. the typology of collective actions developed in the study by Ben Mustapha 2016). However, both researchers chose framework designs that were specifically suited to assess collective action, respectively, in cooperatives in India and in water user associations in Tunisia. The preliminary knowledge they gained from the cases studied meant they were able to select the important elements to include in their frameworks. Elements of minor importance were excluded. Thus, their frameworks did not aim to have a global validity scale.

For instance, Shah (1995) considered that the ethnic composition within cooperatives was important because it is an important issue in India. By contrast, Ben Mustapha (2016) did not study ethnic composition because rural inhabitants in central and northern parts of Tunisia are quite homogeneous in terms of ethnic origin. Ben Mustapha chose not to assess the influence of religious beliefs or traditional forms of solidarity on the actors' approach to cooperation and negotiation in the irrigation schemes studied. Ben Mustapha and Shah considered farming households as a whole and did not investigate relations within each household.

Table 1 shows how the theoretical bases adopted by Shah (1995 and 1996) and Ben Mustapha (2016) addressed the five main criticisms made by the sociologists and anthropologists with regard to the IESD school of thought. In particular, both studies used a social constructivist approach to collective action and performance. They took into account the fact that actors have different objectives, expectations, as well as different definitions of the performance of collective action. In addition, their conceptual frameworks do not focus on resolving a single social dilemma.

These two cases also show that diverse theoretical bases may use a meso-validity scale. Shah (1995, 1996) was anchored in institutional economics and established causal linkages between explanatory variables and the performance of cooperatives (as the explained variable). Ben Mustapha (2016) was anchored in sociology and did not attempt to make these links. Instead, she focused on the processes of interaction between actors. Moreover, Shah's assessment of 100 cooperatives across India is situated at a higher level than Ben Mustapha's study (2016) of three irrigation schemes in northern and central Tunisia. Concomitantly,

Table 1: How the theoretical bases used by Shah (1995 and 1996) and Ben Mustapha (2016) address the criticisms of sociologists and anthropologists with regard to the IESD school of thought.

	Shah	Ben Mustapha
Multiple issues and social embeddedness	The qualitative component of the analysis takes into account multiple issues and social embeddedness	The interactions between actors were studied with regard to several issues
Multiple values, objectives and definitions of performance	A social constructivist approach of performance	A social constructivist approach of performance
External actors and factors	The study takes into account supporting institutions and economic context	The influence of major actors external to the irrigation scheme is taken into account
Power relationships	Power relationships are taken into account in the qualitative component of the study	There is an assessment of how actors attempt to impose their viewpoints, alone or in coalitions
History and processes	This component is considered in the qualitative component of the study	The study involved an assessment of the evolution of the relations between actors over a 4-year period

Shah's assessment of cases of collective action was much less detailed than that undertaken by Ben Mustapha.

4.3. Validity scales and policy recommendations

Each validity scale makes it possible to obtain findings that are specific in terms of providing a basis for suggesting initiatives or policies to support actors' collective action. Studies that use a local validity scale enable a detailed understanding of specific cases that, by design, cannot be generalized. Some use this detailed understanding to propose initiatives that could support collective action in the specific case studies (taking into account the possible diversity with regard to how actors define an improvement in collective action). By contrast, studies that use a global validity scale produce numerous generic findings, which are based on a less detailed understanding of specific cases. Studies based on a global validity scale may propose very broad recommendations, such as the relevance of users' involvement in decision-making for managing irrigation schemes.

Studies using a meso-validity scale can provide a useful contribution to the design of initiatives or public policies that aim to support a specific sector (e.g. forest management in a given country). They have developed theoretical bases that do not oversimplify the complexity of the case studies. They also involve a structured comparative approach that makes it possible to scale up research results. Indeed, many studies that use a meso-validity scale have made proposals for the kind of policies that could support the inception and performance of collective action (Shah 1996; Lopez-Gunn and Martinez-Cortina 2006; Faysse et al. 2012; Ingram et al. 2015; Ricks 2015).

4.4. Innovative research questions

Analyses of collective action in rural areas involving a meso-validity scale have been successfully conducted for many years. However, they have sometimes been considered as mere building blocks for theories of collective action that set out to achieve global validity. Consequently, the theoretical bases and methodologies used have often been disregarded. In order to grasp the importance of analyses that use a meso-validity scale, we need to study how their theoretical bases are designed and applied.

Several possible areas of research could be explored to reconsider the numerous meso analyses that have been conducted and to undertake new analyses. One area of research could examine the design of theoretical bases and methodologies for local collective action, which use a meso-validity scale. This could involve an assessment of how a preliminary informal exploratory analysis (literature review, contacts with local actors, etc.) is undertaken in order to identify the most important concepts to include in the theoretical basis. This requires a much clearer understanding of what "a concept important for the analysis of collective action" actually means. A second area of research could focus on the contents of the theoretical bases and the methodologies: which concepts are selected and

why; how theoretical bases at meso scale can address the criticisms made by sociologists and anthropologists; how the sampling of case studies is organized; and how the validity of research results is constructed at regional or sectorial level.

A third area of research could aim to further our understanding of the linkages between the three types of studies (in terms of the validity scales) and, in particular, how the findings at one level can provide a research framework at another level. Earlier, we mentioned the use of IESD frameworks in some sociological and anthropological studies. Studies with a local validity scale (involving long periods spent with the communities, participant observation, open interviews with key informants, focus groups, etc.) are useful for gaining a comprehensive understanding of specific cases, which can then provide the basis for designing meso-validity analyses.

5. Conclusion

When studying collective action in rural areas linked to common-pool resource management and agricultural production, researchers have drawn from diverse theoretical bases. Over the past 20 years, while the two main groups of theories have influenced each other, dialogue between the two has been virtually non-existent. The rare exchanges have failed to establish common ground, i.e. approaches that both groups consider to be valid. The main aim of most exchanges has been to identify theoretical bases in relation to two criteria, namely, that the theories should produce universal assertions that can be applied to collective action, as well as a response to the main criticisms expressed by sociologists and anthropologists with regard to the IESD school.

The focus on validity scales reveals why attempts to find common ground between the two groups have failed. Implicitly or explicitly, IESD approaches were always thought to have a global validity scale. On the contrary, approaches used in sociology and anthropology were thought to involve at least part of their research approach that was based on a local validity scale. Thus, establishing common ground meant constructing theoretical bases, which had a universal application, as well as the capacity to cater for all the possible dimensions of collective action to be found in any local case study. This was simply not possible.

The emphasis on validity scales is also helpful when it comes to identifying a way forward. Finding common ground may be possible if each group accepts the idea of "stretching" the scale used in their research: (i) instead of setting out to obtain universal findings, the goal could be shifted to focus on results that are valid in a specific region or sector; (ii) instead of trying to include a large number of key elements to analyze collective action on a case-by-case basis, only the most important elements for assessing collective action in a specific region or sector could be selected. We have shown that the meso-validity scale can be used to obtain findings, which can then be scaled up from specific cases, without oversimplifying local realities.

Meso-scale analyses can help renew dialogue between both groups. Firstly, discussion could focus on the methods used for meso-scale analyses (see the research questions suggested above). Secondly, there may be an opportunity to set up research with both groups (IESD and sociology/anthropology), which could study a common set of cases of collective action using a meso-validity scale. These studies should meet the three prerequisites mentioned above for establishing common ground, namely: taking into account the most important elements for understanding collective action in local cases in the same region or sector; addressing the criticisms expressed by sociologists and anthropologists with regard to the IESD approaches; organizing a structured comparison of cases. If both research studies shared some common ground in this way, dialogue between scholars from the two groups would be more fruitful, particularly because the results from one study could be used to develop the findings from the other. Thus, both groups' research could contribute to a more profound and multidimensional understanding of actors' collective action in rural areas.

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